

Prevalence of Respiratory Diseases among Patients Visited in Hospital: A Prospective Study

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ABSTRACT

Background: Chronic respiratory diseases account for 4% of the global and 8.3% of the overall burden of chronic diseases, having a major adverse impact on sufferers' quality of life (QoL), disability, and productivity, and resulting in increased economic burden for both the individual and community. The prevalence of respiratory diseases in developing countries is unknown. Hence; we planned the presents study to assess the prevalence of various respiratory diseases among patients visiting the OPD of general medicine department of R.B.M hospital, Bharatpur, Rajasthan.

Materials & Methods: The present study included assessment of prevalence of Respiratory Diseases among Patients Visited in Hospital. A total of 50 patients with various respiratory diseases were included in the present study. Complete demographic and clinical details of all the patients were obtained. Thorough clinical examination of all the patients was done which also included evaluation of respiratory functional tests. All the results were recorded on Microsoft excel sheet and were analyzed by SPSS software. Chi- square test was used for assessment of level of significance. P- value of less than 0.05 was taken as significant.

Results: Bronchial asthma was the most common disease

encountered, found to be present in 40 percent of the patients population. Chronic obstructive pulmonary disease (COPD), and Pneumonia were other common respiratory diseases found to be present in 20 and 14 percent of the patients population respectively.

Conclusion: Most prevalent respiratory disease in the presents study was bronchial asthma. These respiratory diseases represent a significant health burden on the modern day society.

Key words: Bronchial Asthma, Respiratory, Prevalence.


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INTRODUCTION

Asthma, allergic rhinitis (AR), chronic obstructive pulmonary disease (COPD), and rhinosinusitis are chronic diseases of the airways and other structures of the lungs.¹ Chronic respiratory diseases account for 4% of the global and 8.3% of the overall burden of chronic diseases, having a major adverse impact on sufferers' quality of life (QoL), disability, and productivity, and resulting in increased economic burden for both the individual and community.^{2,3}

In recent years, the Asia-Pacific region has undergone a period of rapid growth, urbanization, and economic change. Recent studies have shown that the prevalence of asthma, allergic disorders, and COPD has increased, becoming a major health priority for the region.⁴

Although the underlying reasons for this increase remain unclear, it is thought that environmental, population, genetic, and socioeconomic factors may play a significant role.⁵⁻⁷ Respiratory disease has a major effect on morbidity and mortality at all ages. Chronic respiratory diseases represent a public health challenge in both industrialized and developing countries because of their

frequency and economic impact. The prevalence of respiratory diseases in developing countries is unknown.⁸

Hence; we planned the presents study to assess the prevalence of various respiratory diseases among patients visiting the OPD of general medicine department of R.B.M hospital, Bharatpur, Rajasthan.

MATERIALS AND METHODS

The present study was planned in the department of general medicine of R.B.M. Hospital, Bharatpur, Rajasthan, India, and included assessment of prevalence of Respiratory Diseases among Patients Visited in Hospital.

Ethical approval was obtained from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol.

Inclusion Criteria

- Patients of respiratory diseases attending the OPD of department of general medicine of R.B.M. Hospital, Bharatpur, Rajasthan

Exclusion Criteria

- Patients who refused consent to participate in the study
- Patients with age less than 14 years
- Patients with history of any systemic illness
- Patients with any known drug allergy
- Patients with history of any drug intake with known respiratory effect

After meeting the inclusion and exclusion criteria, a total of 50 patients with various respiratory diseases were included in the present study. Complete demographic and clinical details of all the

patients were obtained. Thorough clinical examination of all the patients was done which also included evaluation of respiratory functional tests. We used a structured abstract form for collecting the information from patients which included information regarding discharge diagnosis with other associated diseases and the length of stay during hospitalization. All the results were recorded on Microsoft excel sheet and were analyzed by SPSS software. Chi-square test was used for assessment of level of significance. P-value of less than 0.05 was taken as significant.

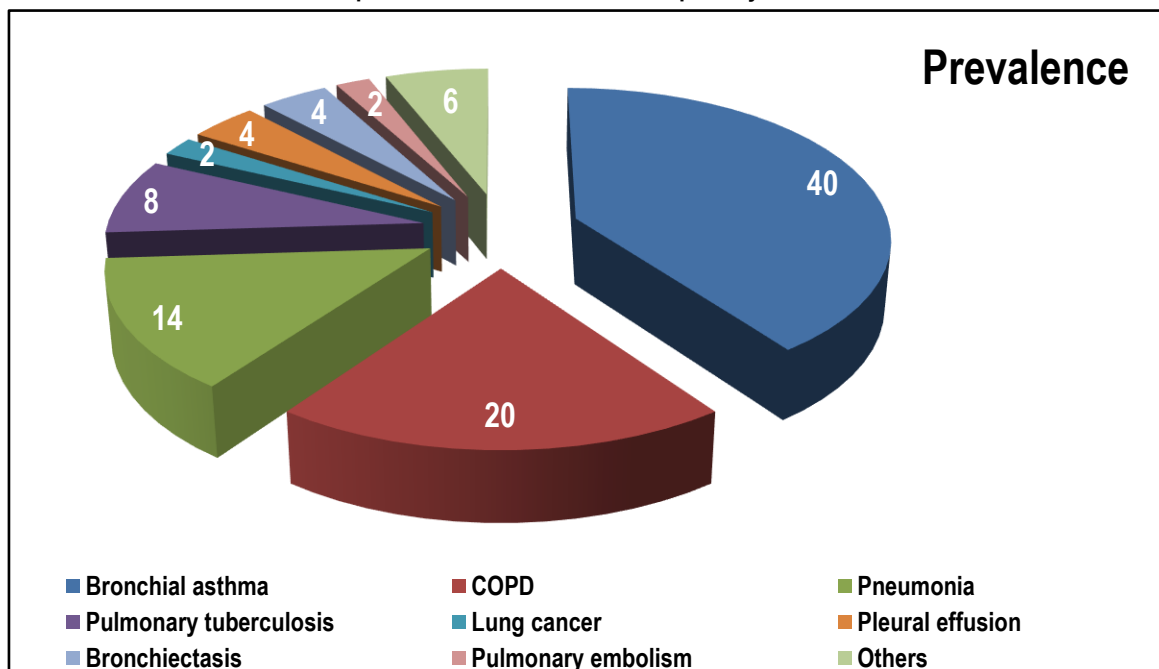
Table 1: Demographic and clinical details of the patients

Parameter		Value
Total subjects		50
Mean age (years)		48.2
Gender	Males	32
	Females	18
Mean weight (Kg)		67.1

Table 2: Prevalence of various respiratory diseases

S. No	Respiratory diagnosis	No. of cases	Percentage
1.	Bronchial asthma	20	40
2.	COPD	10	20
3.	Pneumonia	7	14
4.	Pulmonary tuberculosis	4	8
5.	Lung cancer	1	2
6.	Pleural effusion	2	4
7.	Bronchiectasis	2	4
8.	Pulmonary embolism	1	2
9.	Others	3	6
Total		50	100

Graph 1: Prevalence of various respiratory diseases



RESULTS

In the present study, we analyzed a total of 50 patients who reported to the department of general medicine of the medical institute. Out of 50, 32 patients were males while the remaining 18 were females. Mean age of the patients of the present study was 48.2 years. Bronchial asthma was the most common disease encountered, found to be present in 40 percent of the patients population. Chronic obstructive pulmonary disease (COPD), and Pneumonia were other common respiratory diseases found to be present in 20 and 14 percent of the patients population respectively. Other respiratory disease encountered in the present study included pulmonary tuberculosis, Lung cancer, Pleural effusion, Bronchiectasis and Pulmonary embolism.

DISCUSSION

In the present study, we observed that bronchial asthma was the most commonly encountered respiratory diseases, found to be present in 40 percent of the patient population. Ghoshal AG et al estimated the proportion of adults receiving care for asthma, AR, COPD, and rhinosinusitis and assess the economic burden, both direct and indirect of this chronic respiratory disease. Consecutive participants aged ≥ 18 years with a primary diagnosis of asthma, AR, COPD, or rhinosinusitis were enrolled. Surveys comprising questions about respiratory disease symptoms, healthcare resource utilization, work productivity, and activity impairment were completed by treating physicians and participants during one study visit. Costs, indirect and direct, that contributed to treatment for each of the four respiratory diseases were calculated. A total of 1000 patients were enrolled. Asthma was the most frequent primary diagnosis followed by AR, COPD, and rhinosinusitis. A total of 335 (33.5%) patients were diagnosed with combinations of the four respiratory diseases; the most frequently diagnosed combinations were asthma/AR and rhinosinusitis/AR. Cough or coughing up sputum was the primary reason for the current visit by patients diagnosed with asthma and COPD while AR patients reported a watery, runny nose, and sneezing; patients with rhinosinusitis primarily reported a colored nasal discharge. The mean annual cost per patient was US\$637 (SD 806). The most significant driver of direct costs was medications. The biggest cost component was productivity loss. Given the ongoing rapid urbanization of India, the frequency of respiratory diseases and their economic burden will continue to rise. Efforts are required to better understand the impact and devise strategies to appropriately allocate resources.⁹

Alamoudi OS determined the prevalence of respiratory diseases and the length of stay among hospitalized patients with respiratory disorders. A retrospective review was done for 810 patients hospitalized with respiratory diseases in King Abdulaziz University Hospital, Jeddah, Saudi Arabia, over 5 years (January 1996 to December 2000). A special form was used to collect information from patient medical records including demographic data (such as age, sex and nationality), discharge diagnosis with other associated diseases and length of stay during hospitalization. Fifty-five percent of patients were males and 56.3% were Saudis. The mostly affected age group was 46-65 years (41.8%). Asthma (38.6%), chronic obstructive pulmonary disease (COPD) (17.2%), pneumonia (11.5%), lung cancer (8.4%) and tuberculosis (TB) (7.2%) had the highest prevalence among hospitalized patients. Asthma was higher among females (63.3%) than males (36.7%).

In contrast, lung cancer, COPD and TB were higher among males (88.2, 66.9 and 74.1%) than females (11.8, 33.1 and 25.9%) respectively ($P < 0.001$). The mostly affected age groups among asthma and TB were 26-45 years and 46-65 years respectively, while the mostly affected age group in lung cancer and COPD patients was 46-65 years ($P < 0.001$). Diabetes mellitus (22.8%) and hypertension (15.1%) were the most prevalent associated diseases. In 75% of the patients, the length of stay ranged from 1-7 and 8-14 days. Asthma, COPD and pneumonia were the leading causes of hospitalization among patients with respiratory disorders, while diabetes and hypertension were the most commonly associated diseases.¹⁰ Nabeel MS et al examined the clinical characteristics, weaning pattern, and outcome of patients requiring prolonged mechanical ventilation in acute intensive care unit settings in a resource-limited country. The definition of prolonged mechanical ventilation used was that of the National Association for Medical Direction of Respiratory Care. During the one-year period, 49 patients with a mean age of 49.7 years had prolonged ventilation; 63% were male, and 84% had a medical illness. The median APACHE II and SOFA scores on admission were 17 and 9, respectively. The median number of ventilation days was 37. The most common reason for starting ventilation was respiratory failure secondary to sepsis (67%). Weaning was initiated in 39 (79.5%) patients, with success in 34 (87%). The median weaning duration was 14 (9.5 - 19) days, and the median length of intensive care unit stay was 39 (32 - 58.5) days. Duration of vasopressor support and need for hemodialysis were significant independent predictors of unsuccessful ventilator liberation. At the 12-month follow-up, 65% had survived. In acute intensive care units, more than one-fourth of patients with invasive ventilation required prolonged ventilation. Successful weaning was achieved in two-thirds of patients, and most survived at the 12-month follow-up.¹¹

CONCLUSION

Respiratory diseases represent a significant health burden on the modern day society. Increase in population from industrial, traffic, petrochemical and various other sources are further deteriorating the situation. Proper health measures are required for further controlling this situation.

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